



THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: August 14, 2018

TO: Willy Melendez, Battalion Chief, Training Division

FROM: Kurtis Bennett, Firefighter, CAPP Program Manager

SUBJECT: Asbestos/Lead at NTC Training Facility

Issue:

According to the City of San Diego, Asbestos and Lead Management Program (ALMP) report (attachment #1), buildings 71, 72, 88, and 89 at NTC contain the following Asbestos Containing Materials (ACM)

- 9x9 vinyl asbestos tiles (VAT) used as flooring
- Mastic adhesive used to secure VAT
- Portions of Thermal System insulation used to insulate pipes

ACM has been disturbed because of firefighter training activities including live-fire exercises. Disturbed ACM poses a health and safety risk to firefighters.

An additional hazard includes lead glazed ceramic wall tiles in building 71, where live-fire exercises were conducted.

Asbestos Background:

Asbestos is the name given to a group of six different naturally occurring fibrous materials (HHS, 2001). Asbestos fibers do not have any detectable odor or taste, do not dissolve in water or evaporate, are resistant to heat, fire, and/or biological or chemical degradation (HHS, 2001). As a result, asbestos has been widely used in a variety of industries, including: automobile, construction, manufacturing, power, and chemical industries (Mauney, 2018). Asbestos usage grew dramatically during the industrial revolution, peaking in the United States in 1965 (Rosner, Markowitz, 1989). In 1989, the EPA banned all new use of asbestos (HHS, 2001).

New asbestos use was banned in the United States as result of an ever-increasing body of evidence that demonstrated a causal link between asbestos exposure and cancer in humans and public pressure resulting from successful litigation on the part of injured workers (Mauney, 2011). Asbestos is classified by the department of Health and Human Services, Environmental Protection Agency, and International Agency for Research on Cancer as a known human carcinogen (HHS, 2001).

The primary route of exposure to asbestos is inhalation, as small asbestos fibers are inhaled into the lungs and become deeply embedded (HHS, 2001). Retaining embedded asbestos fibers in the lungs can result in numerous disease states. The first is scarring (pulmonary fibrosis) of the lungs resulting in asbestosis, a condition that causes decreased pulmonary gas exchange and can lead to serious disability and/or death (HHS, 2001). Workers exposed to asbestos are also at increased risk of developing lung cancer and mesothelioma (cancer of the pleural lining), both of which have long latency periods and poor survival rates (HHS, 2001). Limited evidence suggests that workers exposed to asbestos may also be at increased risk of developing other forms of cancer, including: stomach, intestines, esophagus, pancreas, and kidneys (HHS, 2001).

When considering risk and ACM, it is important to understand the difference between friable and non-friable asbestos. Friable ACM is any material that contains more than one percent asbestos by weight or area and can be crumbled, pulverized, or reduced to powder by the pressure of an ordinary human hand (SWS, n.d.). Friable asbestos is dangerous to human health because it releases toxic fibers into the air (SWS, n.d.). Examples of friable ACM include: pipe/heating duct insulation, flexible connections for ventilation ducts, attic and wall loose insulation, acoustical and decorative plasters/ceilings, sprayed on fire-proofing and more (SWS, n.d.).

Non-friable ACM cannot be pulverized under hand pressure and when left undisturbed and maintained in a state of good repair poses little risk to human health (SWS, n.d.). Examples of non-friable ACM include: asphalt roofing shingles, cement siding, gaskets, vinyl floor tiles, and mastic (SWS, n.d.). Non-friable asbestos including VAT and asbestos containing mastic can become friable when subjected to: cutting, drilling, grinding, scraping, renovating, demolishing, maintenance, housekeeping, and/or any other activity including destructive firefighter training that creates dust (SWS, n.d.).

NTC Discussion:

In the late 1990's the City of San Diego took possession of NTC and the San Diego Fire Department (SDFD) re-purposed the facility as a firefighter training facility. Disclosures related to NTC are evidence of an awareness by the City of San Diego of the potential presence of asbestos, lead and other hazardous materials throughout NTC (Attachment # 2).

At the time NTC was relinquished to the City of San Diego, the buildings were in a state of good repair, having been maintained by the US Navy. Since that time building maintenance has been deferred and firefighters have engaged in destructive training activities and live-fire exercises throughout the facility, resulting in extensive disruption of the following ACM: VAT, mastic adhesive used in conjunction with VAT, and pipe insulation

Building 71:

17,734 square feet. Constructed in 1956. This building was used for live-fire training. Asbestos containing thermal system insulation (TSI) inside the building has been extensively disturbed. Additionally, ceramic wall tiles in the bathrooms with a lead glaze have been exposed to high heat resulting in visible discoloration and damage. When exposed to high-heat, Lead-glazed tiles in a live-fire training area have the potential to liberate lead fumes. According to the United States Department of Labor, Inhalation of airborne lead vapors is generally the most important source of occupational lead exposure (DOL, 1991). Effects of

exposure to lead often show no sign of immediate disease, rather lead is absorbed in your tissues and can slowly cause irreversible damage to numerous body systems (DOL, 1991).

Building 72:

17,734 square feet. Constructed in 1954. This building was used for destructive firefighter training. Throughout the building there is asbestos containing mastic on the floors.

Buildings 88 & 89:

90,567 square feet each. Constructed in 1967. Throughout these buildings VAT are broken and pulverized and asbestos containing mastic is exposed.

SCBA Compressor Room:

Broken VAT and exposed asbestos containing mastic on the floor. According to Bauer Compressors technical support, breathing air compressors do not filter asbestos and compressors should not be housed in an area where disrupted asbestos is present (Attachment #3).

The SDFD has been aware of the hazard posed by VAT and asbestos containing mastic since 2002, as evidenced by an abatement notification emailed to the SDFD Training Division (Attachment #4). The abatement in 2002 was limited to 1200 square feet in building #88.

Between 2002 and 2015, there are anecdotal reports of additional professional abatement. However, no evidence of such abatement has been found at the time of this writing. There is evidence of do-it-yourself abatement in numerous areas.

In 2015, Firefighter (FF) Kevin Pendleton resigned from his position as a Fire Academy Instructor at NTC over asbestos concerns (Attachment #5). Based on FF Pendleton's concerns, limited abatement was again undertaken in numerous areas where VAT were chipped and asbestos containing mastic was exposed. In addition to FF Pendleton's documented concerns, other Academy staff and personnel assigned to NTC have expressed concerns about the safety of the buildings between 2002-2015. Specifically, Captain Mike DeGuzman and retired Captain Mark Mastergeorge reported to me that they had expressed their concerns to leadership.

There is no available evidence of thermal system insulation (TSI) abatement in building #71 (live-fire building) in either 2002 or 2015. TSI (pipe insulation) in buildings constructed prior to 1980 is a presumed asbestos containing material (PACM) unless proven otherwise by laboratory analysis (Quealy, 2011). ALMP Inspector Robert Cox has identified various areas of disturbed asbestos containing TSI in building #71. According to the California State Fire Marshall (CSFM), all ACM's must be removed from acquired structures when conducting live-fire training (CSFM, 2008). All ACM's were not removed from building #71 prior to live-fire training.

Based on the available information and physical inspection it appears that the asbestos abatement strategy at NTC over the years was to target specific problem areas as they arose, as evidenced by targeted abatement in both 2002 & 2015. While this approach addressed the issues at the time, the root cause was not addressed. The root cause of the continuing asbestos problem at NTC is that firefighters engage in destructive training throughout the

facility, damaging VAT, scraping asbestos containing mastic by crawling and dragging heavy tools across floors, and otherwise continually disturbing ACM.

Recommendations:

Ensure a Safe Training Environment

- Based on the limited success of past abatement efforts and the necessity to continue destructive firefighter training, the following options are recommended.

Option #1

- Abate all ACM and other hazards in select buildings/spaces at NTC where destructive training is conducted and engage in targeted abatement in select areas used for non-destructive activities
 - Priorities will be guided by a yet to be received quote for abatement services
 - Permanently seal off buildings/spaces not abated
 - **Priority spaces for total abatement/destructive training areas**
 - 88B second floor
 - Total abatement, destructive firefighter training activities
 - 88B third floor
 - Total abatement, destructive firefighter training activities
 - Air compressor room
 - Or consider compressor relocation
 - Stairwell areas
 - In all active stairwells
 - Debris on stairwells is an Air Pollution Control District (APCD) violation per ALMP
 - **Priority spaces for targeted abatement/non-destructive training areas**
 - 89A first floor
 - 89A second floor
 - Establish a routine floor maintenance waxing program for remaining VAT in all occupied spaces including building 680
 - VAT require waxing and ongoing maintenance to ensure asbestos fibers are not released (Rancho, n.d.)
 - **Identify building/spaces currently empty/near empty for total abatement**
 - Reduced costs, no prop removal prior to abatement
 - Potential empty/near empty spaces to be considered
 - 88C first floor
 - 88A second floor
 - 88A third floor
- Upon receipt of the abatement quote from GGG Demolition, an informed cost/benefit analysis related to abatement can be made

- Costs for additional buildings/spaces can be generally extrapolated from quotes provided

Option #2

- **Purchase a modular Conex based training facility (Attachment #6)**
 - Conex based systems are portable and specifically designed for live-fire and destructive firefighting training activities
 - Reduced labor costs to run live-fire training exercises due to multiple redundant safety systems and automation
 - Air-scrubbing technology is environmentally friendly
 - No toxic discharge/smoke
 - Installed in six months start to finish
 - Existing courtyard areas have power, drainage, and water supply
 - When training center is ultimately moved, Conex based system can be moved to the new facility
 - Exact quotes require a site visit by vendor to assess infrastructure and other preparatory needs

Option #3

- **Cease all destructive training at NTC and contract with regional municipalities/colleges to conduct destructive firefighter training at purpose-built facilities**
 - Chula Vista
 - Rancho Santa Fe
 - Miramar FD
 - Poway
 - Heartland
 - Miramar College

Administrative

- Acknowledge past missteps on the part of SDFD
 - SDFD was aware of the hazards associated with the buildings at NTC since at least 2002
 - Every SDFD firefighter for the previous two decades has spent literally hundreds of hours training in the buildings at NTC
 - Employee concerns about environmental safety at NTC were not addressed properly
 - Spot abatement over the years provided only short-term solutions in very specific areas
 - Training continued throughout the facility in areas with disturbed ACM for decades
- Revise current administrative oversight to ensure the workforce is not unnecessarily exposed to workplace hazards in the future
- Commit to transparent communications with the workforce about potential environmental hazards in the workplace

Medical Surveillance and Coverage for Future Illness

- Monitor all SDFD Firefighters (all ranks) that trained in buildings at NTC for adverse health effects associated with asbestos and/or lead exposure
- Provide 100% medical coverage for life for all SDFD Firefighters (all ranks) that develop any disease that could have resulted from exposure to asbestos and/or lead

Attachments: 1. ALMP Report (not received at time of writing)
2. NTC hazards lease disclosure
3. Bauer Compressors technical information/asbestos
4. 2002 NTC asbestos abatement
5. FF Kevin Pendleton Fire Academy Resignation/asbestos
6. Bullex Conex based training

Kurtis Bennett

Program Manager/Cancer Awareness & Prevention Program

KB/kb

References

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U.S. Department of Health & Human Services

Mauney, M. (2018) *History of Asbestos*. Retrieved from:
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Quealy, B. (2011) Which Buildings Require Asbestos Testing Prior to Renovation/Demolition?
Retrieved from: <http://www.terracon.com/wp-content/uploads/2011/03/Which-Buildings-Require-Asbestos-Testing.pdf>

Rancho Santiago Community College District (Rancho) (n.d.) Guidelines for Stripping Asbestos-Containing Floor Coverings. Retrieved from: <https://www.rsccd.edu/Departments/Risk-Management/Documents/Safety/Guidelines%20for%20stripping%20asbestos%20floors.pdf>

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<https://www.solidwasteservices.net/PDF/asbestos.pdf>

State Fire Training (2008) Fire Control 3A Course Guide, Structural Firefighting in Acquired Structures. Office of the State Fire Marshall

US Department of Labor (DOL) (1991) Occupational Safety and Health Standards. Retrieved from:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10031



THE CITY OF SAN DIEGO

Attachment #2

October 1, 2003

Damon Schamu,
Assistant Chancellor
San Diego Community College District
3375 Camino Del Rio South
San Diego CA 92108-3883

*Pg 7 C
16*

HAND DELIVERED

RE: Lease / Miramar College at Camp Nimitz

Dear Damon,

Enclosed are an Original and a Duplicate Original lease for the subject premises. Please review and sign the documents where indicated, and call me when they are ready for pickup. Please note, the agreement requires the Lessee to provide a Schedule of Rates and Charges (Section 9.4) as well as a Schedule of Days and Hours of Operation (Section 9.5).

After execution by the College District, I will present the documents for City Manager execution, and finally, the City Attorney. I will return a fully executed Duplicate Original to you upon City execution.

If you have any questions, please give me a call at (619) 236-6063

Sincerely,

Albert C. Gaudio
Property Agent

ACG/b

Enclosures: Original/Duplicate Original Leases



Office of the City Manager
202 C Street, MS 9A • San Diego, CA 92101-3869
Tel (619) 236-6363 Fax (619) 236-6067

Attachment #2

- 6.13 Asbestos Disclosure. CITY discloses to LESSEE that portions of the structural components of the premises may contain asbestos. LESSEE acknowledges having received notice from CITY of the presence of such asbestos in accordance with Health and Safety Code Section 25915. LESSEE shall disclose the existence of asbestos on the leased premises, as required by Health and Safety Code Section 25915. LESSEE agrees to indemnify and hold CITY harmless from any loss or claim which may result from the existence of asbestos on the leased premises.

A Hatchment # 3

Good afternoon sir,

after speaking with you i would highly recommend that you do not run the compressor in a room with exposure to asbestos, our filtration systems are not made to filter out Asbestos. The compressor should intake clean breathable air only. Let me know if there is anything else i can assist you with.

Charles Simms
Customer Service Representative (Mechanical)

Tel: 1-844-500-5822 (Toll Free)

How did we do?

*Bauer
compressors*



[[4149de54d16521501c7b4df265fea53a53845d83-1252949257]]

Getting too much email from Kurtis Bennett <no-reply@evernote.com>? You can unsubscribe

CITY OF SAN DIEGO
MEMORANDUM

DATE: September 24, 2002

TO: Capt Randy Lowenstein, Fire Department Regional Training Facility Manager

FROM: Don Costello, Asbestos & Lead Program Inspector
via Alan J. Johanns, Asbestos & Lead Program Manager, Environmental Services
Department, Environmental Protection Division

SUBJECT: Asbestos Removal at Fire Department Regional Training Facility Building #88

This memorandum is to provide you notice of asbestos removal at Fire Department Regional Training Facility Building #88. The project involves the removal of approximately 1200 square feet of asbestos-containing flooring and mastic material on the first and second floor (southeast corner). All work will be performed by a licensed asbestos contractor in accordance with all applicable federal, state, and local regulations.

There will be a City representative there to monitor the contractor's work performance and take air samples. The work is scheduled to begin on September 26, 2002 and end on October 2, 2002. While this work is in progress, building occupants will not be allowed in the immediate work area. These areas will be clearly delineated with barrier fencing and signs. **State law requires that you post and provide a copy of this notification to all building occupants.**

If you have any questions regarding this asbestos project call me at (858) 573-1295.



Don Costello

memos/1186

Fwd: Asbestos Mitigation Process

Pendleton, Kevin

Wed 5/30/2018 9:45 PM

NTC

To:Bennett, Kurtis <KurtisB@sandiego.gov>;

Attachment #5

Early emails. This was the response to my initial complaint that Melendez filed. Here was what they came up with as a frame of reverence...

kpendleton@sandiego.gov

Begin forwarded message:

From: "Bechtel, Todd" <TBechtel@sandiego.gov>
Date: April 8, 2015 at 8:47:47 AM PDT
To: "Carrasquillo, Ralph" <RalphC@sandiego.gov>,
"Clyons, Jeffrey" <JClyons@sandiego.gov>,
"Hannibal, Jon" <JHannibal@sandiego.gov>, "De
Guzman, Michael" <MDeGuzman@sandiego.gov>,
"Mackie, Glen" <GMackie@sandiego.gov>, "Tex,
Mark" <MTex@sandiego.gov>, "Kinnamon, Edward"
<EKinnamon@sandiego.gov>, "Flores, Juan"
<JFlores@sandiego.gov>, "Vigil, Robert"
<RLVigil@sandiego.gov>, "Colafrancesco, Michael"
<MColafrancesco@sandiego.gov>, "Cheek, Jeffrey"
<JCheek@sandiego.gov>, "Hewitt, Jason"
<JHewitt@sandiego.gov>, "Sgambelluri, Stanley"
<SSgambelluri@sandiego.gov>, "Melendez, Willy"
<WMelendez@sandiego.gov>, "Afsahi, Kia"
<KAfsahi@sandiego.gov>, "Denlinger, Piper"
<PDenlinger@sandiego.gov>, "Michaels, Steven"
<SMichaels@sandiego.gov>, "Maestas, Lee"
<LMaestas@sandiego.gov>, "Dominguez, Andrea"
<ADDominguez@sandiego.gov>, "McNamara,
Daniel" <DMcNamara@sandiego.gov>,
"Dombrosky, Mark"
<MDombrosky@sandiego.gov>, "Sanford, Brian"
<BSanford@sandiego.gov>, "Miramontez, Joshua"
<JMiramontez@sandiego.gov>, "Smith, Lindsay"
<LJSmith@sandiego.gov>, "Hernandez, Christian"
<CDHernandez@sandiego.gov>, "Smith, Kyle - Fire-
Rescue" <KASmith@sandiego.gov>, "Taddeo,
Amber" <ATaddeo@sandiego.gov>, "Caldwell,
Daniel" <DCaldwell@sandiego.gov>, "Miramontez,
Joshua" <JMiramontez@sandiego.gov>,
"McLaughlin, William"
<WMcLaughlin@sandiego.gov>, "Hypes, Daniel"
<DHypes@sandiego.gov>, "Mispagel, Timothy"
<TMispagel@sandiego.gov>, "Harpole, Jabe"

<JHarpole@sandiego.gov>, "Melanson, Kevin"
<KMelanson@sandiego.gov>, "Zakar, Joe"
<IZakar@sandiego.gov>
Cc: "Vigil, Richard" <RRVigil@sandiego.gov>
Subject: Asbestos Mitigation Process

Academy Instructors,

The Training Division is in the process of having our academy training buildings (89/88 ABC) evaluated for asbestos mitigation. We are waiting for an area expert to make a proper evaluation and recommendations on working conditions. We will also look at mitigation of any potential hazards associated. We have closed off some locations inside our buildings that we feel need direct evaluation and ask you not use these areas. The "Instructor Lounge" and the old classroom behind it (89C) have carpet over the tiles and we have left them open. Use of this area is by personal choice only and not required. If you choose not to use this area for lunch, breaks or bathroom entry you can use the park beach by our office and the bathrooms at the IST buildings. Building 88B (Truck side) second and third floor search rooms have been shut down until further evaluation. The Condo Lay 1st and 2nd floor interior attack are still in use.

The Academy office will develop an alternative plan for instruction of Search and Rescue. This may require the use of the H barracks interior attack rooms. We reserve the right to change the Truck and Pump training schedule to avoid any conflict of needs for the same training room. We will keep all of you advised of our continued progress in this matter.

**Todd Bechtel, Captain
Academy Coordinator
San Diego Fire Rescue
(619)692-4994 Office
(619)344-1314 Cell
tbechtel@sandiego.gov**

Fwd: 78th Academy

Pendleton, Kevin

Wed 5/30/2018 9:47 PM

NTC

To:Bennett, Kurtis <KurtisB@sandiego.gov>;

Resignation letter

Begin forwarded message:

From: "Vigil, Richard" <RRVigil@sandiego.gov>
Date: February 6, 2015 at 12:40:45 PM PST
To: "Pendleton, Kevin" <KPendleton@sandiego.gov>
Subject: RE: 78th Academy

KP,

I completely understand your position. I will keep you teaching what you have already been assigned. I will be sorry to see you no longer out here leading our new recruits. However, I am positive that you will remain in the game.

Thank you,

Rich Vigil, Engineer
San Diego Fire-Rescue
Assistant Academy Coordinator
(619) 692-4995 Office
(619) 886-5124 Cell

-----Original Message-----

From: Pendleton, Kevin
Sent: Friday, February 06, 2015 9:15 AM
To: Bechtel, Todd; Vigil, Richard
Subject: 78th Academy

Good morning,

I wanted to send an official request to modify my assignment as an assistant instructor for the upcoming 78th academy (March 2015). Due to growing concerns over the presence of asbestos at NTC and the condition of our training facility, I would prefer to resign entirely from the academy. I understand that I have committed to teaching in this third and final academy, so if this presents a major problem then please move me back to the pump/engine side and assign me the minimum number of shifts possible. I would be happy to keep my High-rise lecture and would love to be involved in any activity held outside of the main barracks.

In a lot of ways this is a very difficult decision for me. As a former educator, teaching in the fire academy has been a goal of mine since I began exploring this career. I sincerely enjoy my time at training and especially teaching the truck material. I initially intended to remain in the cadre until promotion to engineer, and in fact, decided to delay pursuit of promotion to become an assistant instructor. My future plans included application for any and all rank appropriate positions at training, so sending a letter like this is not an easy decision for me. After weighing the

value of my current position against the level of exposure, [REDACTED] I have decided that I must place my own well-being and peace of mind ahead of my career ambitions. If you have any further questions or concerns please let me know. The last thing I want to do is damage any relationships I have built as an assistant instructor. I appreciate everything you men do for our fire department and truly hope my decision is not met with any ill will. Thanks again for your consideration and my deepest apologies if this presents any inconvenience. Please let me know how you would like to proceed.

Best,
Kevin Pendleton
661-435-2507

BullEx Containers

Attachment #6

Kyle Haines <khaines@bullex.com>

Wed 7/25/2018 11:58 AM

Training town

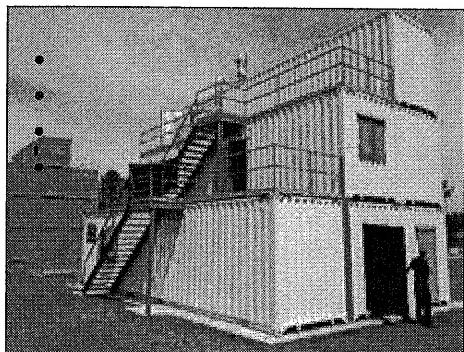
To:Bennett, Kurtis <KurtisB@sandiego.gov>;

4 attachments (4 MB)

Three Story Container Structure_compress.pdf; abbotsdord.pdf; 6 Container.jpg; Container Concept.JPG;

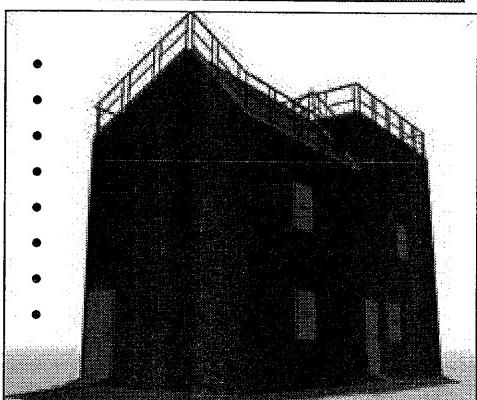
Hi Kurtis,

As we've discussed, these prices are estimates only and cannot be used for purchasing. Please let me know if there is any more information I can give you.



Six Containers: \$700,000

- Two Fire Props
- Internal and external stairs
- Walkable roof areas
- Windows and doors



Six Containers: \$900,000

- Three Fire Props
- Attack Digital Fire Prop
- Internal and External stairs
- Pitched Roof Prop
- Windows and Doors
- Cameras
- Moveable walls
- Standpipe

Kyle Haines

Regional Sales Manager,
Training Structures & Centers

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